

(e) In demonstrating compliance with the above construction requirements, licensees must base their calculations on signal field strengths that ensure reliable service for the technology utilized.

(1) For the purpose of this section, the service radius of a base station may be calculated using the following formula:

$$d_{km} = 2.53 \times h_m^{0.34} \times p^{0.17}$$

where d_{km} is the radial distance in kilometers,

h_m is the antenna HAAT of the base station in meters, and

p is the e.r.p. of the base station in watts.

(2) Alternatively, licensees may use any service radius contour formula developed or generally used by industry, provided that such formula is based on the technical characteristics of their system.

(f) Upon meeting the five and ten year benchmarks in paragraphs (a), (b) and (c) of this section, licensees shall file a map and other supporting documentation that demonstrates compliance with the geographic area or population coverage requirement. BTA licensees shall file a statement indicating commencement of service. The filing must be received at the Commission on or before expiration of the relevant period.

(g) If the sale of a license is approved, the new licensee is held to the original build-out requirement.

(h) Failure by a licensee to meet the above construction requirements shall result in forfeiture of the license and ineligibility to regain it.

NOTE: Population-based construction requirements contained in this section shall be based on the 1990 census.

[59 FR 14118, Mar. 25, 1994]

§ 24.129 Frequencies.

The following frequencies are available for narrowband PCS. All licenses on channels indicated with an (*) will be eligible for bidding credits of 25 percent, and all licenses indicated with an (**) will be eligible for bidding credits of 40 percent, as set forth in § 24.309(b) if competitive bidding is used to award such licenses.

(a) Eleven frequencies are available for assignment on a nationwide basis as follows:

(1) Five 50 kHz channels paired with 50 kHz channels:

Channel 1: 940.00–940.05 and 901.00–901.05 MHz;
Channel 2: 940.05–940.10 and 901.05–901.10 MHz;
Channel 3: 940.10–940.15 and 901.10–901.15 MHz;
Channel 4: 940.15–940.20 and 901.15–901.20 MHz;
and,
Channel 5: 940.20–940.25 and 901.20–901.25 MHz.*

(2) Three 50 kHz channels paired with 12.5 kHz channels:

Channel 6: 930.40–930.45 and 901.7500–901.7625 MHz;
Channel 7: 930.45–930.50 and 901.7625–901.7750 MHz; and,
Channel 8: 930.50–930.55 and 901.7750–901.7875 MHz.*

(3) Three 50 kHz unpaired channels:

Channel 9: 940.75–940.80 MHz;
Channel 10: 940.80–940.85 MHz; and,
Channel 11: 940.85–940.90 MHz.*

(b) Six frequencies are available for assignment on a regional basis as follows:

(1) Two 50 kHz channels paired with 50 kHz channels:

Channel 12: 940.25–940.30 and 901.25–901.30 MHz; and,
Channel 13: 940.30–940.35 and 901.30–901.35 MHz.**

(2) Four 50 kHz channels paired with 12.5 kHz channels:

Channel 14: 930.55–930.60 and 901.7875–901.8000 MHz;
Channel 15: 930.60–930.65 and 901.8000–901.8125 MHz;
Channel 16: 930.65–930.70 and 901.8125–901.8250 MHz; and,
Channel 17: 930.70–930.75 and 901.8250–901.8375 MHz.**

(c) Seven frequencies are available for assignment on a MTA basis as follows:

(1) Two 50 kHz channels paired with 50 kHz channels:

Channel 18: 940.35–940.40 and 901.35–901.40 MHz; and,
Channel 19: 940.40–940.45 and 901.40–901.45 MHz.*

(2) Three 50 kHz channels paired with 12.5 kHz channels:

Channel 20: 930.75–930.80 and 901.8375–901.8500 MHz;

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Channel 21: 930.80–930.85 and 901.8500–901.8625 MHz; and,
Channel 22: 930.85–930.90 and 901.8625–901.8750 MHz.*

(3) Two 50 kHz unpaired channels:

Channel 23: 940.90–940.95 MHz; and,
Channel 24: 940.95–941.00 MHz.*

(d) Two 50 kHz channels paired with 12.5 kHz channels are available for assignment on a BTA basis:

Channel 25: 930.90–930.95 and 901.8750–901.8875 MHz; and,
Channel 26: 930.95–931.00 and 901.8875–901.9000 MHz.*

NOTE 1: Operations in markets or portions of markets which border other countries, such as Canada and Mexico, will be subject to on-going coordination arrangements with neighboring countries.

[59 FR 44069, Aug. 26, 1994]

§ 24.130 Paging response channels.

(a) The channels listed in paragraphs (b) and (c) of this section are available to licensees of conventional one-way paging base stations licensed pursuant to part 22 or part 90 of this chapter as of the application filing deadline for the paging response channels. Eligibility for response channels shall be based on the authorized service area of each existing paging licensee. This service area is defined as the area within a 32.2 kilometer radius of the licensee's base stations or, in the case of "F," "G," "H," or "K" class stations under §§ 22.502(c) and 90.495(b)(1) of this chapter, as the area that is within the service area radius specified in § 22.504(b)(2) of this chapter. Existing paging licensees are eligible to bid for any response channel in any BTA or MTA which encompasses an authorized base station or which is partly or wholly overlapped by a licensee's service area. These channels shall be used only in paired communications with existing paging channels to provide mobile-to-base station communications. Until two years after the date of initial license grant, eligible paging licensees are limited to a maximum of two response channels within the same geographic area. Licenses for paging response channels are not counted toward the multiple ownership restrictions of § 24.101.

UNPAIRED FREQUENCIES (MHz)

	License area
Mobile transmit ¹ (12.5 kHz bandwidth): 901.90625, 901.94375, 901.98125, 901.91875, 901.95625, 901.99375, 901.93125, 901.96875	BTA
Base or mobile transmit (50 kHz bandwidth): 940.775, 940.825, 940.875	Nationwide
940.925, 940.975	MTA

¹ Limited to paging licensees authorized under parts 22 and 90 of this chapter.

(b) The following four 12.5 kHz unpaired channels are available for assignment on a MTA basis:

A: 901.9000–901.9125 MHz;
B: 901.9125–901.9250 MHz;
C: 901.9250–901.9375 MHz; and
D: 901.9375–901.9500 MHz.

(c) The following four 12.5 kHz unpaired channels are available for assignment on a BTA basis:

E: 901.9500–901.9625 MHz;
F: 901.9625–901.9750 MHz;
G: 901.9750–901.9875 MHz; and
H: 901.9875–902.0000 MHz.

[59 FR 14119, Mar. 25, 1994; 59 FR 15269, Mar. 31, 1994, as amended at 59 FR 44069, Aug. 26, 1994; 59 FR 46200, Sept. 7, 1994]

§ 24.131 Authorized bandwidth.

The authorized bandwidth of narrowband PCS channels will be 10 kHz for 12.5 kHz channels and 45 kHz for 50 kHz channels. For aggregated adjacent channels, a maximum authorized bandwidth of 5 kHz less than the total aggregated channel width is permitted.

§ 24.132 Power and antenna height limits.

(a) Stations transmitting in the 901–902 MHz band are limited to 7 watts e.r.p.

(b) Mobile stations transmitting in the 930–931 MHz and 940–941 MHz bands are limited to 7 watts e.r.p.

(c) Base stations transmitting in the 930–931 MHz and 940–941 MHz bands are limited to 3500 watts e.r.p. per authorized channel and are unlimited in antenna height except as provided in paragraph (d) of this section.

(d)(1) MTA and regional base stations located between 200 kilometers (124 miles) and 80 kilometers (50 miles) from their licensed service area border